

Partners seek to restore forests

AGENCIES HOPING TO HELP SIERRA HOLD MORE WATER

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The Sierra Nevada is many things to California: a mountain playground in winter and summer, a swath of public land stretching nearly the length of the state, and vital habitat for a broad variety of wildlife. It also provides the majority of California's freshwater supply.

With a fourth year of drought looming, state and federal agencies have launched an ambitious partnership to improve the Sierra's ability to store and filter water, as well as reduce fire risks, by restoring its forests.

Called the Sierra Nevada Watershed Improvement Program, it aims to coordinate the diverse activities of government agencies, property owners and nonprofit groups to focus on the Sierra's most serious problems. Goals include restoring streams and meadows, improving habitat and thinning overgrown forests, while also protecting economic uses of the land, such as logging and grazing.

The effort is being led by the Sierra Nevada Conservancy, a state agency, in partnership with the U.S. Forest Service, the primary landowner in the Sierra.

Jim Branham, the conservancy's executive officer, said the goal is to catch up with some of the problems posed by climate change, which has increased mountain temperatures and reduced snowpack; and correct a century of aggressive fire prevention, which caused forests to become overgrown and reduced their water-storing ability. This set of problems was dramatically underscored by recent large fires in the Sierra, including the 2013 Rim fire in Yosemite (255,000 acres) and last year's King fire near Lake Tahoe (98,000 acres).

"Every indication tells us it's only going to get worse if we aren't being more aggressive and proactive in trying to restore this landscape," Branham said. "It's not that we think we have all the answers. It's that we think there needs to be a serious examination of how all of these things are working or not working."

The Sierra delivers about 60 percent of the freshwater Californians use in their homes, businesses and farms. Historically, this has come from the melting of each winter's heavy snowpack. In just a few months of winter, the Sierra can accumulate enough snow to supply freshwater that keeps streams running through the state's long, dry summers.

But climate change is upsetting this picture. More winter precipitation is falling on the Sierra as rain rather than snow, which changes the duration and intensity of runoff. As a result, healthy meadows have become a critical means of capturing and storing runoff later into the year.

Meadows are the sponges, Branham said, that soak up and slowly release each winter's precipitation. Many Sierra meadows have lost some of that absorbing power, a result of overgrown forests and decades of lightly regulated livestock grazing.

Hugh Safford, regional ecologist at the U.S. Forest Service, said climate change over the past 75 years has altered the mix of tree species in the Sierra. At all but the highest elevations, conifers such as Jeffrey pine and Ponderosa pine are decreasing, while hardwood species such as oak and madrone are increasing. This is caused by rising temperatures and a decline in snowpack.

Wildlife habitat also has been affected, with suitable terrain shrinking for several species, including spotted owl and fisher.

The state's prolonged drought is compounding these effects.

"I expect there's going to be a major problem in the Sierra Nevada in the next two, three, four years unless we see a major increase in precipitation," Safford said.

No single agency has enough resources to tackle these problems, because the Sierra Nevada is so big. Branham said the watershed partnership intends to bridge that gap by bringing agencies together to smooth out some of the barriers.

For example, controlled burns help thin overgrown forests and reduce fire risk. But air quality regulations and community objections often restrict the available days to conduct such burns. Part of the solution is to improve

public understanding about controlled burns, and work with air quality regulators to ease regulations.

For at least a century, forest managers aggressively fought every Sierra wildfire, on the premise fires were bad for forest health and wildlife. More recently, scientists have shown that fire is a natural and necessary part of the ecosystem.

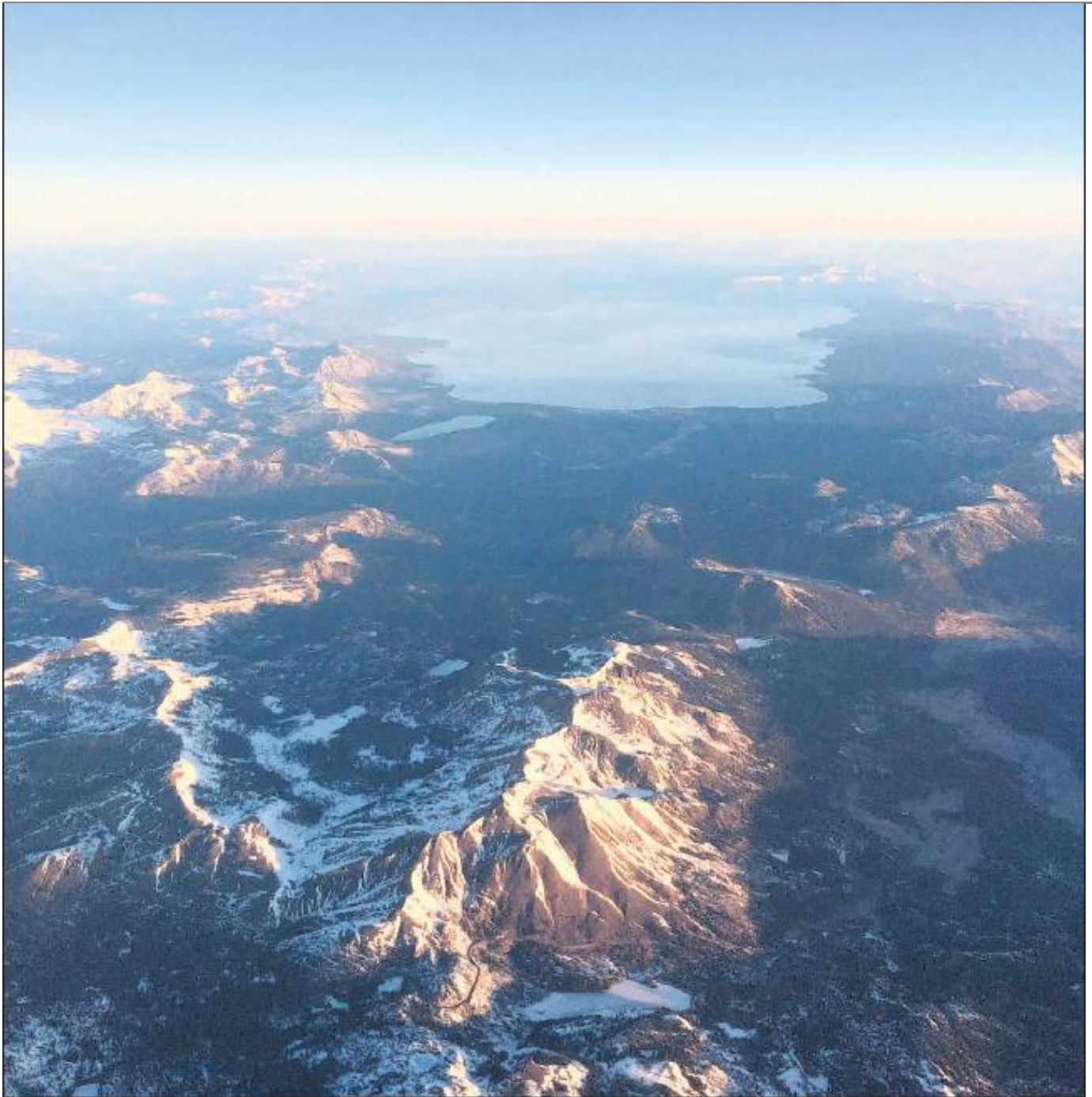
Another option is more mechanical treatments – logging – to thin forests. This has been controversial among environmental groups, which contend it could be used as a cloak to remove large trees that are valuable habitat. Landowners and logging companies, meanwhile, argue that some timber harvesting is necessary to pay for restoration work.

The past few decades have seen several concerted efforts to restore the Sierra, but few significant results. The conservancy and Forest Service are optimistic this effort will be different. So far, eight organizations have endorsed the program, ranging from The Nature Conservancy to the California Forestry Association.

“At this point, I think everybody has come to the mutual understanding that there is an urgency now to move forward,” said David Bischel, president of the California Forestry Association. “We have to do something bold.”

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Sue Morrow smorrow@sacbee.com Snow is scarce in the mountains around Lake Tahoe on Feb. 25. Sierra snow provides much of the state's freshwater.